

IN THE ABSTRACT

Please cancel the original Abstract at page 21, lines 1-17 in its entirety and insert therefor the following substitute Abstract on a separate sheet as follows:

### ABSTRACT

The optical thickness of a film formed on a substrate is controlled precisely to manufacture an optical filter having an accurate optical thickness. Time is counted during a film being formed on a substrate to note time points  $t$  with respect to a reference time set in advance. At least one of two optical characteristics of energy transmittance and energy reflectance when the film being formed on the substrate is irradiated with monitoring light is expressed by a function  $f(t)$  of the time points  $t$  based on a theoretical formula of the optical characteristic. The optical characteristic is measured by irradiating the film with the monitoring light at the time points  $t$ . A designed thickness achieving time at which the optical thickness of the film designed thickness is predicted. The film formation is stopped at the designed thickness achieving time, thereby obtaining the optical filter.